

CODE APPLICATION NOTICE

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REVISION: March 2, 1998

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CAN FILE #	SCOPE	DATE	ACTION/COMMENT
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CAN 4	25 Gage Steel Studs	02/05/85	Rescinded

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****Indicates new or revised**

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****Indicates new or revised**

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****Indicates new or revised**

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****Indicates new or revised**

CODE APPLICATION NOTICE**FILE NO. CAN 1****DATE: September 5, 1989**

The following are the enforceable codes for facilities under the authority of the Alfred E. Alquist Hospital Facilities Seismic Safety Act of 1983:

(Note: Revisions to the previous Code Application Notice are shown underlined)

APPLICATION**CODE**

All applications¹ submitted
on or after **February 19, 1996**

1994 UBC and 1995 California
Amendments (95 California
Building Code - Part 2,
Title 24, CCR)
1993 NEC and 1995 California
Amendments (95 California
Electrical Code - Part 3,
Title 24, CCR)
1994 UMC and 1995 California
Amendments (95 California
Mechanical Code - Part 4,
Title 24, CCR)
1994 UPC and 1995 California
Amendments (95 California
Plumbing Code - Part 5,
Title 24, CCR)
1994 UFC and 1995 California
Amendments (95 California
Fire Code - Part 9,
Title 24, CCR)

All applications¹ submitted
Between **December 28, 1995**
and **February 18, 1996**

1994 UBC and 1995 California
Amendments (95 California
Building Code - Part 2,
Title 24, CCR)
1993 NEC and 1995 California
Amendments (95 California
Electrical Code - Part 3,
Title 24, CCR)
1991 UMC and 1992 California
Amendments (92 California
Mechanical Code - Part 4,
Title 24, CCR)
1994 UPC and 1995 California
Amendments (95 California
Plumbing Code - Part 5,
Title 24, CCR)
1994 UFC and 1995 California

REV. November 22, 1995

Amendments (95 California
Fire Code - Part 9,
Title 24, CCR)

All applications¹ submitted
on or after August 14, 1992

- 1991 UBC and 1992 California
Amendments (92 California
Building Code - Part 2,
Title 24, CCR)
- 1990 NEC and 1990 California
Amendments (91 California
Electrical Code - Part 3,
Title 24, CCR)
- 1991 UMC and 1992 California
Amendments (92 California
Mechanical Code - Part 4,
Title 24, CCR)
- 1991 UPC and 1992 California
Amendments (92 California
Plumbing Code - Part 5,
Title 24, CCR)

All applications¹ submitted
between June 30, 1991 and
August 14, 1992

- 1988 UBC and 1989 California
Amendments (89 California
Building Code - Part 2,
Title 24, CCR)
- 1990 NEC and 1990 California
Amendments (91 California
Electrical Code - Part 3,
Title 24, CCR)
- 1988 UMC and 1989 California
Amendments (89 California
Mechanical Code - Part 4,
Title 24, CCR)
- 1988 UPC and 1989 California
Amendments (89 California
Plumbing Code - Part 5,
Title 24, CCR)

All applications¹ submitted
between September 1, 1989
and June 30, 1991

- 1988 UBC and 1989 California
Amendments (89 California
Building Code - Part 2,
Title 24, CCR)
- 1987 NEC and 1989 California
Amendments (89 California
Electrical Code - Part 3,
Title 24, CCR)
- 1988 UMC and 1989 California
Amendments (89 California
Mechanical Code - Part 4,
Title 24, CCR)

Mechanical Code - Part 4,
Title 24, CCR)

1988 UPC and 1989 California
Amendments (89 California
Plumbing Code - Part 5,
Title 24, CCR)

All hospital, SNF, ICF
(excluding type V, single
story wood or light steel
frame snf's and icf's)
applications¹ submitted prior
to September 1, 1989

1979 UBC and 1985 Triennial
edition of Part 2, Title
24, CCR

1981 NEC and 1985 Triennial
edition of Part 3, Title
24, CCR

1985 UMC and 1987 Triennial
edition of Part 4, Title
24, CCR

1985 UPC and 1986 Supplement
of Part 5, Title 24, CCR
(based upon 1985 edition)

All type V, single story wood
or light steel frame SNF and
ICF applications¹ submitted
prior to September 1, 1989

1982 UBC and 1985 Triennial
edition of Part 2, Title
24, CCR

1981 NEC and 1985 Triennial
edition of Part 3, Title
24, CCR

1985 UMC and 1987 Triennial
edition of Part 4, Title
24, CCR

1985 UPC and 1986 Supplement
of Part 5, Title 24, CCR
(based upon 1985 edition)

1. "Application" means the submission of a filing fee and an
application for preliminary or final review.

Plans complying with the 1995 California Building Standards Code
may be submitted to the Office prior to December 28, 1995 upon
written request.

ORIGINAL SIGNED

11/29/95

Kurt A. Schaefer

Date

REV. November 22, 1995

CODE APPLICATION NOTICE

FILE NO. 1-7-125(d)

DATE: January 28, 1998

CODE SECTION: Sections 7-125(d) and 7-131(g), Article 3, Chapter 7, Part 1, Title 24, California Code of Regulations

7-125(d) . . .

The Office places its stamp on the original reproducible drawings and the master cover sheet of the specifications when they have been corrected to comply with these regulations. . . .

7-131(g) After the Office has made its check of the submitted documents and the applicant has corrected the originals accordingly, the stamp of the Office of Statewide Health Planning and Development, shall be placed on the original reproducible drawings and the master cover sheet of the specifications. . . .

INTERPRETATION:

In the past, “original reproducible drawings” were interpreted by OSHPD to mean original drafted tracings, because in the past reproduction methods were limited. Today, however, “original reproducible drawings” can be any documents that are reproducible and contain the stamp and original wet signature of the responsible design professional, and any other consulting engineers involved in the preparation of the drawings.

REASON:

This new interpretation allows the design professional to present plans for OSHPD approval in any medium (tracings, linen, mylar, sepia, blueprints, and bluelines, etc.) he or she chooses, as long as they contain the stamp and original wet signature of the responsible design professional and consultants.

The following are all acceptable scenarios for obtaining a stamped set of plans from OSHPD:

1. Two sets of prints with design professionals stamp and signature are presented. We stamp all sheets for the designer and/or owner on one set and stamp the cover sheet for our set and issue a plan approval letter.

2. One set of tracings and one set of prints with design professionals stamp and signature are presented. We stamp all sheets of the tracings and stamp the cover sheet of the prints for our set and issue a plan approval letter.
3. Only one set of tracings with design professionals stamp and signature are presented. We stamp tracings and issue a confirm stamping letter indicating when we receive a set of prints indicating our stamp we will then issue a plan approval letter.

ORIGINAL SIGNED

2/17/98

Kurt A. Schaefer

Date

CODE APPLICATION NOTICE

FILE NO. 2-423A.1

DATE: August 20, 1996

423A.1 Gas and Vacuum Systems. The design, installation and testing of medical gas and vacuum systems shall be in accordance with NFPA 99 - 1993, Standard for Health Care Facilities.

SUBJECT

APPROVAL DATE

Connection to Patient Medical Systems

October 25, 1996

Certification of Medical Gas And Vacuum Systems

October 25, 1996

Attachments

CONNECTION TO PATIENT MEDICAL GAS SYSTEMS

CODE SECTION: Section A-4-3.1.9.1 and A-4-4.3.5, Appendix A, 1993 NFPA 99

4-3.1.9.1 NOTE 3: The second sentence of 4-3.1.9.1 (The medical air compressor shall take its source from the outside atmosphere and shall not add contaminants in the form of particulate matters, odor, or other gases.) applies to both the distribution of the air in the piping system and to the use of a compressor as a source.

It is the intent that the medical air piping distribution system support only the intended need for breathable air for such items as IPPB and long-term respiratory assistance needs, anesthesia machines, etc. The system is not intended to be used to provide engineering, maintenance, and equipment needs for general hospital support use. It is the intent that the life safety nature of the medical air be protected by a system dedicated solely for its specific use. The medical air distribution system could also supply air-driven instruments that exhaust into the pharynx. This might be a dental or other surgical device.

As a compressed air supply source, a medical air compressor should not be used to supply air for other purposes because such use could increase service interruptions, reduce service life, and introduce additional opportunities for contamination.

A-4-4.3.5 Piping Systems. Piping systems supplying medical gases to patients should be reserved exclusively for that purpose so as to protect the patients from administration of gas other than that intended for their use. Therefore laboratory gas piping systems should not be used to pipe gas for use by hospital patients. This warning is also intended to apply to piping systems intended to supply gas to patients within a laboratory facility. Such a system should not be used to supply laboratory equipment other than that directly involved with the patient procedure.

INTERPRETATION:

Application: Hospitals, Skilled Nursing Facilities (SNF) and Intermediate Care Facilities (ICF)

Piping systems supplying medical compressed air and medical gases to patients shall be reserved exclusively for patient use.

OSHPD will allow connection of these piping systems to outlets in areas used for testing and maintenance of patient devices which operate using such gases. These patient devices include but are not limited to ventilators and anesthesia machines.

REASON:

OSHDP views testing of patient devices requiring medical grade gases as a patient use. Therefore connection to these piping systems is consistent with NFPA 99.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

CERTIFICATION OF MEDICAL GAS AND VACUUM SYSTEMS

CODE SECTION: **California Building Code, Section 423A.1 (Section 1001E), Gas and Vacuum Systems.**

For gas and vacuum system design and construction requirements, see NFPA 99, 1993, Chapter 4, Sections 4-1 through 4-11.

1993 NFPA 99, Section 4-6.3.1 Patient Gas Systems - Type I.

Prior to the use of any medical gas piping system for patient care, the responsible authority of the facility shall ensure that all tests required in Section 4-5.1 have been successfully conducted and permanent records of the test maintained in the facility files.

1993 NFPA 99, Section 4-11 Administration of Vacuum System and Section 4-11.3 Recordkeeping. Upon completion of the tests described in 4-10.1, a written record of the performance of these tests shall be maintained in the permanent records of the facility.

INTERPRETATION:

Application: Hospitals, Skilled Nursing Facilities (SNF) and Intermediate Care Facilities (ICF)

A. Certification of installed medical gas systems is the responsibility of the facility.

1. All tests set forth in Sections 4-5.1 and 4-10.1 shall be performed by a qualified person or testing entity, independent from the installers. Pursuant to Section 7-149, Part 1, Title 24, California Code of Regulations, the qualified person or testing entity shall be selected by the governing board or authority of the health facility and approved by the architect or engineer of record. The Inspector of Record (IOR) shall obtain a letter of certification from the qualified person or testing entity which verifies that the installed medical gas and vacuum systems have passed the appropriate tests set forth in NFPA 99 Sections 4-5.1 and 4-10.1. The IOR shall submit this letter of certification to the OSHPD field staff prior to the OSHPD recommending occupancy or "Beneficial Occupancy" of the health facility construction project.

2. In no event will the OSHPD certify or approve medical gas system inspectors, testers, certifiers, etc.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

CODE APPLICATION NOTICE**FILE NO. 2-308.9****DATE: March 23, 1993**

CODE SECTION: Section 308.9, 1995 California Building Code
(Section 1009, 1992 California Building Code)

An approved manual and automatic fire alarm system shall be provided for all Group I, Division 1.1, 1.2, and 2 Occupancies....

INTERPRETATION:

All fire alarm drawings and specifications submitted for approval for Group I Occupancies shall include a manual and an automatic fire alarm system conforming to the Article 10 (Article 14), Fire Alarm Systems, 1995 California Fire Code. The automatic alarm system shall respond to the products of combustion, including smoke or heat, or via an approved automatic fire sprinkler system, conforming to Section 904 (Section 3802(d)), 1995 California Building Code. The automatic fire sprinkler substitution is not permitted for those facilities with partial fire sprinkler system protection, except where it can be demonstrated that complete automatic detection will be provided.

REASON:

An approved automatic fire sprinkler system is considered an automatic fire alarm system by this section. Any sprinkler head activated will initiate the required water flow alarm, adjunct to an approved system, which in turn, will activate the building fire alarm. I Occupancies of Type I construction, in existence or under construction on March 4, 1972, were specifically exempted from the requirement to retroactively install automatic fire sprinklers by Health and Safety Code Section 13113. Many of these buildings still in use today have not been retrofitted with automatic fire sprinklers and have very old and obsolete fire alarm systems that will ultimately require replacement. This Code Application Notice clarifies Section 308.9 (Section 1009), 1995 California Building Code, requiring all facilities submitting plans for review and approval shall be equipped with the manual alarm and some form of automatic detection system appropriate for the scope of the project submitted. Only an automatic fire sprinkler system conforming to NFPA 13, as adopted by the California Building Code, may be used in lieu of a separate automatic system.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

REVISION: August 20, 1996

CODE APPLICATION NOTICE**FILE NO. 2-1108A.3****DATE: June 6, 1995**

CODE SECTION: Sections 1108A.3 and 3504.1, 1995 California Building Code
(Sections 3104(f) and 6004(a), 1992 California Building Code)

When fire-protective signaling systems are provided, in occupancies regulated by the State Fire Marshal (see Section 101.17 (Section 110, Item 13), 1995 California Building Code) they shall include visual alarms in the following areas:

1. Restrooms
2. Corridors
3. Music practice rooms
4. Band rooms
5. Gymnasiums
6. Multipurpose rooms
7. Occupational shops
8. Occupied rooms where ambient noise impairs hearing of the fire alarm
9. Lobbies
10. Meeting rooms
11. Any other area for common use

INTERPRETATION:

When fire-protective signaling systems are provided, they shall include visual alarms in the following areas:

1. **RESTROOMS AND SIMILAR USES, to include:**

public restrooms
staff restrooms
patient restrooms, serving other than individual patient rooms
locker rooms
dressing rooms

Visual devices are not required in patient room restrooms provided exclusively for use by inpatients in I-1.1 Occupancies. Section 308.9 (Section 1009), 1995 California Building Code.

2. **CORRIDOR SYSTEM AND SIMILAR USES**, to include:

public corridors
staff corridors
service corridors
vestibules
passageways

3. **GYMNASIUMS AND SIMILAR USES**, to include:

physical therapy
rehabilitation therapy
occupational therapy

4. **MULTIPURPOSE ROOMS AND SIMILAR USES**, to include:

auditoriums
dining rooms
cafeterias
outdoor patios & courts that require exiting through the building and
are an occupiable portion of the building.

5. **OCCUPIED ROOMS WHERE AMBIENT NOISE IMPAIRS
HEARING OF THE FIRE ALARM AND SIMILAR USES**, to include:

kitchens
laundry areas
central sterilization
mechanical equipment rooms
generator rooms
boiler rooms
power plants

6. **LOBBIES AND SIMILAR USES**, including elevator lobbies:

No further specifications.

7. **MEETING ROOMS AND SIMILAR USES, to include:**

conference rooms
waiting rooms
reception rooms/areas
lounges
chapels

8. **ANY OTHER AREA FOR COMMON USE WITH AN OCCUPANT LOAD OF AT LEAST SEVEN (7) AND SIMILAR USES, to include:**

pharmacies
laboratories
office rooms/areas

9. **ROOMS USED FOR SLEEPING AND SIMILAR USES, (NOT TO INCLUDE PATIENT ROOMS).**

Sleeping rooms and suites for persons with hearing impairments shall have a visual fire alarm connected to the building fire-protective signaling system per Section 1111B.4.5 (Section 3104(g)), 1995 California Building Code. Application of this requirement shall be by sleeping room/suite type (e.g. doctors sleeping, family sleeping, etc).

When used in lieu of audible devices in patient occupied areas, visual devices shall be located in all rooms and areas. Section 308.9 (Section 1009), 1995 California Building Code.

REASON:

Clarification is needed to specify locations where visual devices are required in health care occupancies.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

CODE APPLICATION NOTICE**FILE NO.** 2-2211A.7.1.2**DATE:** July 16, 1997

CODE SECTION: Section 2211A.7.1.2, Title 24, Part 2 California Code of Regulations

Connection Strength. *Connection configurations utilizing welds or high-strength bolts shall demonstrate, by approved cyclic test results or calculations, the ability to sustain inelastic rotation and develop the strength criteria in Section 2211A.7.1.1 considering the effects of steel overstrength and strain hardening.*

INTERPRETATION:

The Office will utilize the **Interim Guidelines: Evaluation, Repair, Modification and Design of Welded Steel Moment Frame Structures** (FEMA 267, August 1995) and the **Interim Guidelines Advisory No. 1** (FEMA 267A, March 1997) for the evaluation of proposed designs using WSMRF systems. These guidelines are considered to be the “state of the practice” with regard to WSMRF design and construction. In addition to the referenced guideline, the Office requires that:

1. The design team contact the Office to review building configuration and frame layout.
2. The design team and the Office review and approve the proposed design criteria defining the design methodology to be used for the WSMRF system. The criteria should reference appropriate sections of FEMA 267 or FEMA 267A. The review and approval of the design methodology should occur well in advance of the submittal of contract documents for review.
3. Where testing is required, the consultant shall submit testing criteria, procedures and all welding procedure specifications (WPS's) for review and approval prior to testing. The Office shall be notified prior to testing so that if possible, a representative of the Office can be present.
4. Other testing and inspections required by Title 24, Part 2 are also applicable. This includes the review and approval of the WPS's for the critical welds.
5. The design team consider and implement the provisions of Chapter 9, Quality Control/Quality Assurance of FEMA 267 and FEMA 267A.

Proposed joint configurations similar to member sizes, joint configurations, and material specifications previously tested may not require retesting for each project.

While the revised language of the 1994 UBC/Title 24, Part 2 may not directly apply to Ordinary Moment Resisting Frames (OMRF), and Eccentric Braced Frames (EBF's), the designer should consider the Commentary to Sections 7.1, 7.2.1 and 7.10.1 in its entirety, of the reference, prior to proceeding with a design utilizing these systems.

The use of welding electrodes with no specified notch toughness (CVN) for the beam column connection in the moment resisting frame is not allowed. There is general agreement that electrodes without CVN values should not be used in critical joints (Sections 7.6 and 8.2.3).

OSHDP considers all of the welds within the connection to be critical to minimize the possibility of crack formation at other sections. The Commentary to Section 7.6 states in part; "... Some professionals knowledgeable in fracture mechanics believe it is essential that all weld metal in the beam column connection, including both field and shop welds, welds of continuity plates, etc., as well as welds of beam to column flanges, should have minimum specified notch toughness..." Welding electrodes should have a specified notch toughness of 20 ft-lbs @ -20°F per Table 1, ANSI/AWS A5.20-95 or later editions. It would be highly unlikely that OSHDP would approve joint configurations utilizing non-notch tough wire.

As new information becomes available, the owners and the design team of projects not yet approved, will be notified of this new information to see if it can be incorporated into the project.

REASON:

The current code is written in performance oriented language without prescriptive language, as was done prior to the emergency code change of October 25, 1994, to guide the designer. By referencing FEMA 267 and 267A, the Office is using the "state of the practice" document to provide interpretation and guidance to the design team for design, and for the Office to plan check a project.

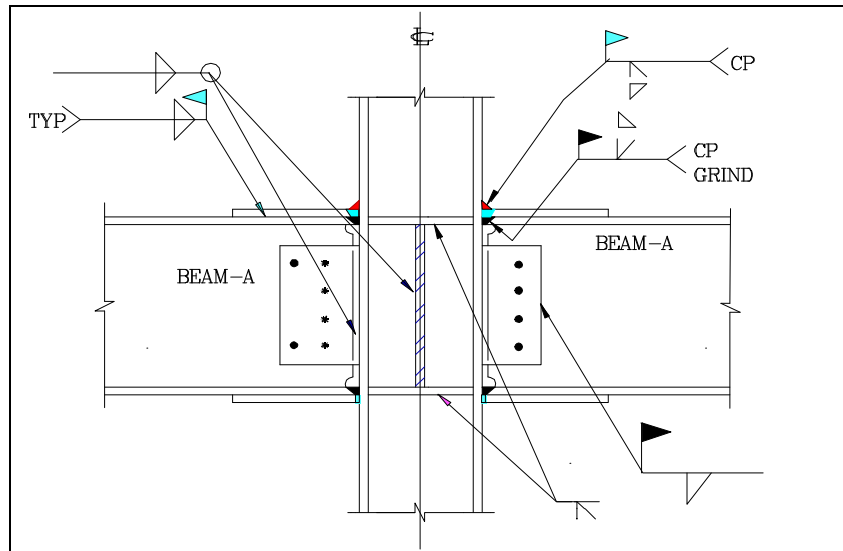
ORIGINAL SIGNED

7/17/97

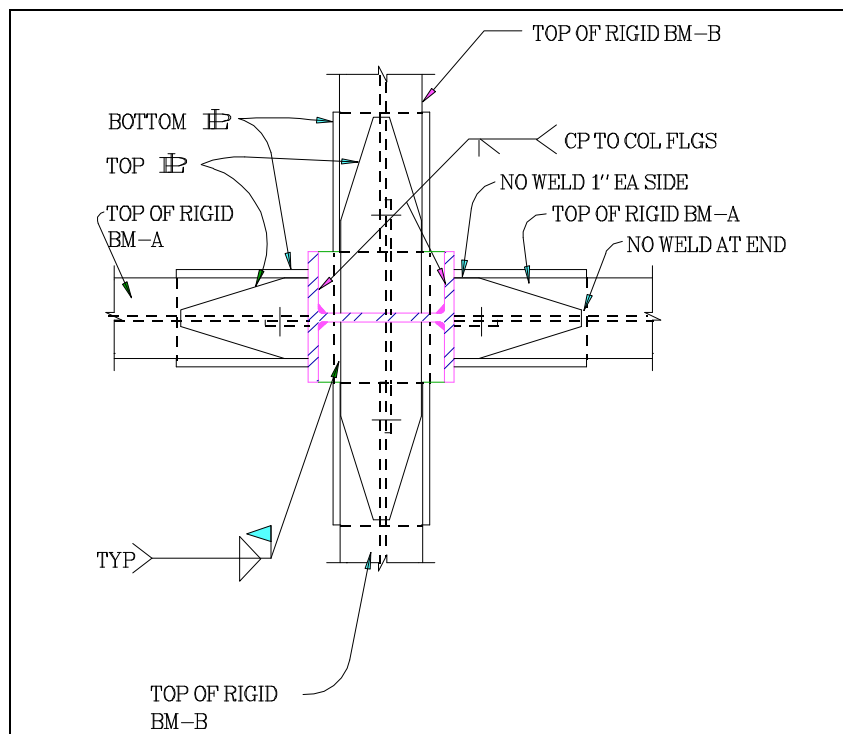
Kurt A. Schaefer

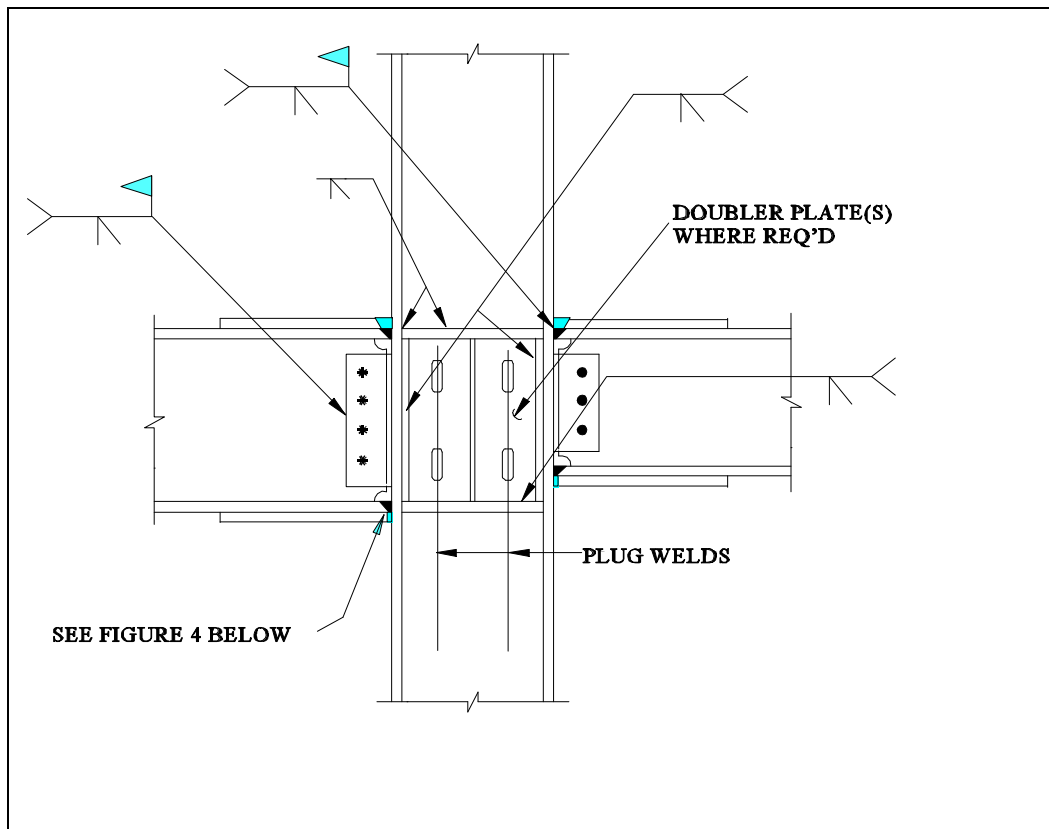
Date

Attachments

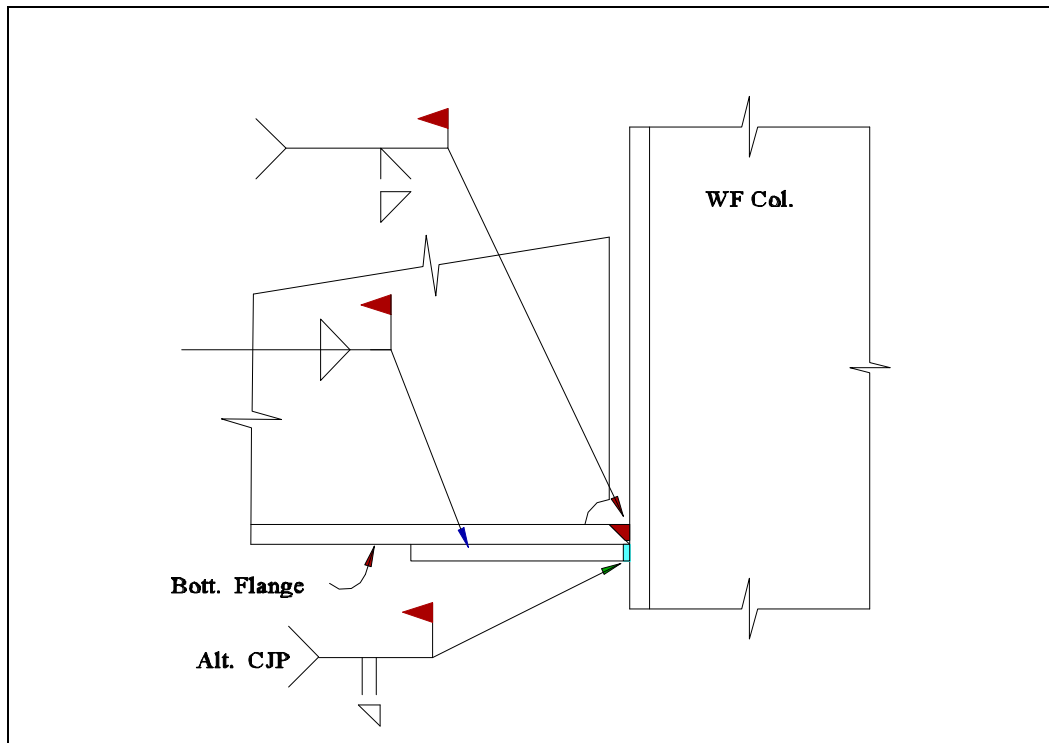
**Figure 1**

DISCLAIMER: The OSHPD does not endorse the use of any single configuration in the design of steel moment frame joints. The configuration shown is to provide the user with a visual representation of those types of welds that very probably should utilize a specified notch tough electrode in their fabrication. Other configurations will very probably have identical weld

**Figure 2**

**Figure 3**

DISCLAIMER: The OSHPD does not endorse the use of any single configuration in the design of steel moment resisting frame joints. The configuration shown is to provide the user with a visual representation of those types of welds that should very probably utilize a specified notch tough electrode in their fabrication. Other configurations will very probably have identical weld

**Figure 4**

DISCLAIMER: The OSHPD does not endorse the use of any single configuration in the design of steel moment resisting frame joints. The configuration shown is to provide the user with a visual representation of those types of welds that should very probably utilize a specified notch tough electrode in their fabrication. Other configurations will very probably have identical weld

CODE APPLICATION NOTICE

FILE NO. 2-413A.2.3

DATE: December 8, 1994

CODE SECTION: Section 413A.2.3, 1995 California Building Code
(Section 6702(c), California Building Code)

Location. Combustion engines and gas turbines used for emergency power shall not be located in a room or area used for any other purpose.

INTERPRETATION:

This notice addresses the equipment allowed in rooms where a combustion engine or gas turbines used for emergency power are installed.

Only equipment essential to the operation of the engine/generator may be located in these rooms. This equipment would include, but is not limited to, paralleling gear, generator monitoring equipment, etc. Equipment which shall be specifically excluded from the room would include the automatic transfer switch, normal system distribution equipment and any other equipment not essential for the operation of the engine/generator.

REASON:

This Code Application Notice is necessary to clarify the statement "... used for any other purpose." The purpose of the section is to restrict the type and amount of equipment allowed in the area. Specifically, if transfer switches were allowed in the area, a fire/explosion in the area could disable both the emergency and normal sources of power to the essential loads.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

REVISION: August 20, 1996

CODE APPLICATION NOTICE**FILE NO. 2-420A.31****DATE: May 31, 1996**

CODE SECTION: Section 420A.31, 1995 California Building Code, Part 2, Title 24

Cardiovascular Surgery and/or Catheterization Laboratory Service Spaces. A catheterization laboratory space shall be provided and shall include a minimum floor area of 420 square feet (39 m²) for the procedure room in addition to spaces for control, monitoring and recording equipment, and X-ray power and controls, and a minimum of one scrub sink for each catheterization laboratory.

Cardiovascular surgery space, in addition to any spaces required under Section 420A.15, shall include the following:

- 1. Operating rooms with a minimum floor area of 550 square feet (51.1m²) with a minimum dimension of 20 feet (6096mm).*
- 2. A pump work room.*

INTERPRETATION:

The cardiovascular operating room shall contain not less than 550 square feet (51.1m²) of useable floor area exclusive of any fixed cabinets and casework.

REASON:

The interpretation clarifies the minimum floor area required for a cardiovascular surgery operating room should be clear of fixed items that may reduce the ease of movement by hospital staff. This interpretation is consistent with language in Section 420A.15.2, 1995 California Building Code, regarding size of operating rooms and with Section 7.7.A2 of the 1992-93 "Guidelines for Construction and Equipment of Hospital and Medical Facilities" compiled by the American Institute of Architects.

NOTE: Section 70439, Title 22, California Code of Regulations licensing requirements state that the minimum floor area of the cardiovascular surgical operating room shall be 650 square feet (60m²) in addition to work room, pump work room and adequate storeroom space. When designed to the minimum requirements of the California Building Code (550 square feet), it will be necessary to submit for program flexibility in order to meet licensure requirements.

ORIGINAL SIGNED

6/3/96

Kurt A. Schaefer

Date

CODE APPLICATION NOTICE

FILE NO. 3-110-2

DATE: December 3, 1990

CODE SECTION: Section 110-2, 1995 California Electrical Code

Approval. The conductors and equipment required or permitted by this Code shall be acceptable only if approved.

INTERPRETATION:

Equipment shall be approvable if it is listed, labeled or certified for its use by a Nationally Recognized Testing Laboratory (NRTL) as recognized by the U.S. Department of Labor, Occupational Safety and Health Administration.

REASON:

The question of what constitutes approval often arises in conjunction with various types of equipment to be installed in health care facilities. The code is unclear as to exactly what criteria constitutes approval of specific types of equipment.

The above interpretation is consistent with the intent of Sections 90-1, 90-4, 90-7 and 110-3 of the 1995 California Electrical Code. The interpretation is reasonable and provides staff with a "standard" means of evaluating whether a particular piece of equipment should or should not be approved for installation.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

REVISION: August 20, 1996

CODE APPLICATION NOTICE**FILE NO. 3-220-11****DATE: February 11, 1998**

CODE SECTION: Section 220-11 (TABLE 220-11), California Electrical Code

220-11. General Lighting. The demand factors listed in Table 220-11 shall apply to that portion of the total branch-circuit load computed for general illumination. They shall not be applied in determining the number of branch circuits for general illumination.

(Excerpt From Table 220-11)

(For) Hospitals*	First 50,000 (volt-amperes) at 40 (%)
	Remainder over 50,000 (volt-amperes) at 20 (%)

* The demand factors of this table shall not apply to the computed load of feeders to areas in hospitals, hotels, and motels where the entire lighting is likely to be used at one time, as in operating rooms, ballrooms, or dining rooms.

INTERPRETATION:

The factors of CEC Table 220-11 shall not be allowed to be applied in the following areas of hospitals:

- 1) Surgery Suite (entire), including recovery
- 2) Emergency Department (entire)
- 3) Kitchen-Food Service-Dining Area
- 4) Critical Care Areas as defined in CEC 517
- 5) Elevator Lobbies and all Corridors
- 6) Loads connected to the Life Safety Branch of the Emergency System
- 7) Inpatient Nursing Stations
- 8) Loads connected to the Critical Branch of the Emergency System

Administrative Areas of the hospital shall be included under the "All Others" type of occupancy of CEC Table 220-11 for lighting only.

The factors of CEC Table 220-11 shall be allowed to be applied in all areas of hospitals not mentioned above, including General Care Patient Rooms and General Care Patient Isolation Rooms.

REASON:

The interpretation described above is based on a recent Hospital Building Safety Board Appeal decision.

ORIGINAL SIGNED

2/11/98

Kurt A. Schaefer

Date

CODE APPLICATION NOTICE**FILE NO. 3-517-16****DATE: July 12, 1993**

CODE SECTION: Section 517-16, California Electrical Code

517-16. Receptacles with Insulated Grounding Terminals. Receptacles with insulated grounding terminals as permitted in Section 250-74, Exception No. 4, shall be identified; such identification shall be visible after installation.

INTERPRETATION:

Insulated ground receptacles, where required for the reduction of electrical noise (electromagnetic interference) on the grounding circuit, are permitted in patient care areas of hospitals. Two insulated equipment grounding conductors shall be run with the branch circuit conductors supplying the receptacle; one shall be the isolated ground conductor and the other shall be the equipment grounding conductor required by CEC 517-13(a). The isolated ground conductor shall terminate on the grounding terminal of the receptacle; the equipment grounding conductor required by CEC 517-13(a) shall ground the outlet box on which the receptacle is installed.

Insulated ground receptacles shall be identified by an orange color or an orange triangle located on the face of the receptacle as required by Section 410-56(c). Additionally, insulated ground receptacles in patient care areas shall be identified with a permanent sign that reads "Caution - Not for Patient Equipment Use".

REASON:

This interpretation coordinates and clarifies the requirements of CEC 517-13, 517-16, 250-74 Exception 4, and 410-56(c) as they apply to insulated ground receptacles in patient care areas.

Insulated ground receptacles do not satisfy the implied requirement of CEC 517-13 for parallel ground paths. A sign is provided to alert staff to the increased risk of connecting patient care equipment to the receptacle.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

REVISION: August 20, 1996

CODE APPLICATION NOTICE**FILE NO. 4-331****DATE: April 4, 1995**

CODE SECTION: Section 331, 1995 California Mechanical Code
(Section 2102(f), 1992 California Mechanical Code)

Section 331 (Sec. 2102. (f)) During periods of power outages emergency electrical power shall be provided for the following equipment:

- 331.1 All heating equipment necessary to maintain a minimum temperature of 60°F. (15.6°C.) in patient areas which are not specified in Table 330.
- 331.2 All heating equipment necessary to maintain the minimum temperatures for sensitive areas as specified in Table 330.
- 331.3 Equipment necessary for humidification of the areas listed in Table 330.
- 331.4 All supply, return and exhaust fans required to maintain the positive and negative air balances as required in Table No. 4-A.
- 331.5 Boiler systems shall comply with Section 329 and shall be designed to maintain a minimum temperature of 60°F. (15.6°C.) in patient areas and the temperatures specified in Table 330, for sensitive areas during periods of breakdown or maintenance of any one boiler.

INTERPRETATION:

Application: Hospitals and Nursing Facilities (SNF and ICF)

Section 331 (Section 2102(f)), 1995 California Mechanical Code refers solely to the provision of emergency electrical power, for the listed equipment, during periods of power outage. The section is not to be construed as requiring:

- 1. Dual fuel heating equipment (i.e., secondary fuel for gas fired boilers).
- 2. Electrical heating equipment in addition to gas fired heating equipment (i.e., electric duct heaters in addition to gas fired rooftop units).

REASON:

It is not the policy of FDD plan review to dictate design but rather to obtain compliance with code. Until the code is amended to require alternative fuel sources when utilizing natural gas, no such requirement shall be imposed on designs submitted to the Office. Facilities under program flexibility to provide an alternative fuel source for gas fired heating equipment shall be notified that it is not a code requirement under Section 331 (Section 2102(f)).

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

CODE APPLICATION NOTICE**FILE NO. 4-406.2.1****DATE: March 24, 1994**

CODE SECTION: Section 406.2.1, Exception 3, 1995 California Mechanical Code
(2104(b) Exception 2, 1992 California Mechanical Code)

Exception No. 2. Dry steam-type humidifiers for local room humidity control may be installed downstream of filter bank No. 2 where designs are specifically approved by the enforcing agency.

INTERPRETATION:

A. Humidifiers upstream of final filters:

There is no code restriction on installation of humidifiers upstream of the final filter. However, care should be taken to provide sufficient distance between the humidifier and filter and/or coils to allow for proper absorption of vapor by the airstream to prevent wetting of filters and coils.

B. Humidifiers located downstream of final filters:

OSHPD interprets "dry steam" to be dry saturated steam as defined by the 1992 ASHRAE Handbook (HVAC Systems and Equipment), Chapter 10, which defines "dry saturated steam" as "pure vapor without entrained water droplets."

Plans and/or specifications shall explain and detail how the proposed humidification device will provide dry steam as defined by ASHRAE.

1. One accepted means of providing dry steam is by means of a jacketed (double wall distribution tube) steam injector type humidifier with accessories for conditioning superheated steam to remove particulate matter and condensate before dispersing dry steam to the airstream. Such devices, when properly installed, will disperse dry steam without entrained water droplets and thus will prevent wetted duct surfaces downstream of the humidifier. If steam from a central boiler plant will be injected directly into the airstream, the design professional should verify that the boiler water will not be treated with chemicals or contain minerals which are known to be hazardous to health or which might contribute to an indoor air quality problem.

2. Another acceptable means of providing dry steam will be a properly designed and installed, boiling water vapor injection type humidifier with the steam generation chamber in an accessible location outside the conditioned airstream. Vapor shall be injected into the conditioned airstream by means of a properly designed and installed distribution tube or tubes. The steam distribution tube(s) shall have provisions for condensate drainage and shall be designed and installed to prevent condensate in the distribution tube(s) from being ejected into the conditioned airstream. The distance between the steam generator and the duct distribution tube(s) shall not exceed manufacturer's recommendations.

Due to potential for bacterial growth in the reservoirs of boiling water vapor injection type humidifiers, the water reservoir shall be equipped for timed flushing cycles. Other acceptable means of preventing bacterial multiplication in the reservoir will be considered. If a timed flush cycle is employed, the frequency shall be sufficient to prevent bacterial populations from multiplying to levels which could be hazardous to patients or hospital staff.

3. Other means of providing humidification downstream of the final filter bank will be considered on a case-by-case basis.

C. All humidifiers:

Regardless of humidifier type, all humidifiers shall be specified and installed with proper downstream distances to obstructions and/or restrictions which could be sites for condensation. Factors such as air velocity, airstream temperature, humidification load and relative humidity of the airstream shall be taken into consideration. Air flow proving devices and downstream humidity high limit controls shall be provided.

Construction documents shall detail how the distribution tubes are to be installed, indicating minimum distances from changes in direction and other potential points of condensation. Appurtenant piping and accessories shall also be detailed. Psychometric analysis or other acceptable means, shall be provided to verify that dry steam will be supplied.

Mechanical means of humidification, such as atomizers, and humidifiers requiring direct contact of conditioned air with water or wetted surfaces are not permitted.

REASON:

The intent of the requirement for dry steam type humidifiers is to prevent direct contact of conditioned air with water or wetted surfaces which could foster the growth of bacteria (including Legionella) in the HVAC system.

Clean, uncontaminated ductwork is a joint responsibility of the design professional, installing contractor, and the hospital maintenance staff. This Code Application Notice addresses the design and installation considerations necessary to prevent direct contact of conditioned air with wetted surfaces which could become sites for bacterial growth. Proper maintenance of the system is the responsibility of the health care facility and is regulated by other Titles of the California Code of Regulations.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

CODE APPLICATION NOTICE

FILE NO. 4-1104

DATE: February 9, 1998

CODE SECTION: Sections 1104.1 and 1104.2 and Tables 11-A and 11-B, 1995 California Mechanical Code

1104.1 System Selection. Refrigeration systems shall be limited in application in accordance with Table 11-B and the requirements of this section.

1104.2 Volume of Occupied Space. The quantity of refrigerant in a high-probability system shall not exceed the amounts shown in Table 11-A based on the volume of the normally occupied space. The volume, of the smallest, enclosed, normally occupied space shall be used to determine the permissible quantity of refrigerant in a system which is located in, serves or passes through such space.

EXCEPTIONS: 1. If the airflow to any enclosed spaced served by a portion of an air-duct system cannot be shut off or reduced below one quarter of its maximum, the cubical contents of the entire space served by that portion of the air-duct system may be used to determine the permissible quantity of refrigerant in the system.

2. Refrigerated process or storage areas meeting the requirements of Section 1104.3.

INTERPRETATION:

1995 California Mechanical Code, Tables 11-A and 11-B amended as shown on the attached Tables.

REASON:

Current Code language prohibits the use of high-probability, direct expansion, cooling systems in I-1.1 Occupancies. This prohibition is inconsistent with ANSI/ASHRAE Standard 15-94, Safety Code for Mechanical Refrigeration and will create unanticipated financial hardship for some health care facilities. OSHPD has determined that the cost of compliance with the current Uniform Mechanical Code (UMC) language far exceeds the benefits that might be achieved by compliance. OSHPD has contacted a sampling of the members of the ICBO Subcommittee that wrote UMC Chapter 11 and determined that the UMC prohibition

on high-probability, direct expansion, cooling systems in "T" Occupancies was unintended. The ICBO code development process has been suspended. ICBO will not process any further changes to the UMC. At a future date, OSHPD will amend the UMC to make the CMC language consistent with this CAN.

This Code Application Notice will make OSHPD Code enforcement for high-probability systems consistent with the nationally recognized ANSI/ASHRAE Standard 15-94, Safety Code for Mechanical Refrigeration.

ORIGINAL SIGNED

2/25/98

Kurt A. Schaefer

Date

TABLE 11-A—REFRIGERANT GROUPS¹, PROPERTIES² AND ALLOWABLE QUANTITIES^{3, 14}

REFRIGERANT	CHEMICAL FORMULA	CHEMICAL NAME ⁴ (Composition for Blends)	CHEMICAL ABSTRACT SERVICE NUMBER	Safety Group ¹	PEL ⁵ (ppm)	IDLH ⁶ (ppm)	LFL (% by Vol.)	SPECIFIC GRAVITY (Air = 1)	POUNDS PER 1,000 CUBIC FEET OF SPACE ⁸
									x 0.016 for kg/m ³
R-11	CCl ₃ F	Trichlorofluoromethane	75-69-4	A1	1,000 ⁹	5,000 ¹⁰	N/A	4.74	1.60
R-12	CCl ₂ F ₂	Dichlorodifluoromethane	75-71-8	A1	1,000	50,000	N/A	4.17	12.00
R-22	CHClF ₂	Chlorodifluoromethane	75-45-6	A1	1,000 ¹¹	50,000 ¹²	N/A	2.99	9.40
R-113	CCl ₂ FCF ₂	1, 1, 2 - Trichloro - 1, 2, 2 - Trifluoroethane	76-13-1	A1	1,000	4,500	N/A	6.47	1.90
R-114	CClF ₂ CClF ₂	1, 2 - Dichlorotetrafluoroethane	76-14-2	A1	1,000	50,000	N/A	5.90	9.40
R-123	CHCl ₂ -CF ₃	1, 1 - Dichloro - 2, 2, 2 - Trifluoroethane	306-83-2	B1	10 ¹¹	4,000 ¹²	N/A	5.28	1.60
R-134a	CH ₂ FCF ₃	1, 1, 1, 2 - Tetrafluoroethane	811-97-2	A1	1,000 ¹¹	50,000 ¹²	N/A	3.52	16.00
R-500 73.8% 26.2%	Azeotrope CCl ₂ F ₂ CH ₃ CHF ₂	R-12/152a (73.8/26.2) Dichlorodifluoromethane 1, 1 - Difluoroethane	75-71-8 75-37-6	A1	1,000 ¹¹	50,000 ¹²	N/A	3.43	16.00
R-502 48.8% 51.2%	Azeotrope CHClF ₂ CClF ₂ CF ₃	R-22/115 (48.8/51.2) Chlorodifluoromethane 1-Chloro- 1, 1, 2, 2, 2 - Pentafluoroethane	75-45-6 76-15-3	A1	1,000 ¹¹	50,000 ¹²	N/A	3.85	19.00
R-717	NH ₃	Ammonia	7664-41-7	B2	50 ¹³	500	15.5	0.59	0.022
R-744	CO ₂	Carbon dioxide	124-38-9	A1	10,000	50,000	N/A	1.52	5.70

¹Refrigerant group classification is in accordance with Section 1102.²Refrigerant properties are those needed for this chapter.³Allowable quantities are for high-probability systems under Section 1103 only.⁴Chemical name shown is the preferred name.⁵PEL is that designated in 29 C.F.R. 1910.1000 unless otherwise indicated.⁶IDLH is that designated by NIOSH unless otherwise indicated.

State of California

Office of Statewide Health Planning and Development

⁷LFL is percentage refrigerant by volume in air at 68°F. (20°C.) and 29.92 in Hg; N/A—Not applicable (not flame limits).

⁸Pounds (Kg) of refrigerant in a high-probability system per 1,000 cubic feet (28.3 m³) of occupied space. See Section 1104. This column does not apply to refrigerant machinery rooms or areas covered by Section 1106.

⁹The PEL value shown is the TLV-C recommended by the American Conference of Governmental Industrial Hygienists.

¹⁰The IDLH value shown is reduced from that designated by NIOSH in light of cardiac sensitization potential.

¹¹A PEL has not yet been established; the value given was determined in a consistent manner.

¹²An IDLH has not yet been established, the value given was determined in a consistent manner.

¹³OSHA PEL is 50 ppm; ACGIH TLV-TWA is 25 ppm.

¹⁴For Occupancy Group I, Divisions 1.1 and 1.2, the quantity of refrigerant in each system is limited to 50% of the amount listed. Exception: kitchens, laboratories, and mortuaries.

TABLE 11-B—PERMISSIBLE REFRIGERATION SYSTEMS¹ AND REFRIGERANTS

OCCUPANCY GROUP AND DIVISION	HIGH-PROBABILITY SYSTEM	LOW-PROBABILITY SYSTEM	MACHINERY ROOM
A-1	Group A1 only	Any	Any
A-2-1	Group A1 only	Any	Any
A-3	Group A1 only	Any	Any
A-4	Group A1 only	Any	Any
B	Group A1 only ²	Any	Any
E-1	Group A1 only	Any	Any
E-2	Group A1 only	Any	Any
E-3	Group A1 only	Any	Any
F-1	Group A1 only ²	Any	Any
F-2	Group A1 only ²	Any	Any
H-1	Any	Any	Any
H-2	Any	Any	Any
H-3	Any	Any	Any
H-4	Group A1 only	Any	Any
H-5	Group A1 only	Any	Any
H-6	Group A1 only	Any	Any
H-7	Any	Any	Any
I-1.1	<u>Group A1 only³</u> None	Any	Any
I-1.2	Group A1 only ³	Any	Any
I-2	Group A1 only	Any	Any
I-3	None	Any	Any
M	Group A1 only ²	Any	Any
R-1	Group A1 only	Any	Any
R-2	Group A1 only	Any	Any
R-3	Group A1 only	Any	Any
S-1	Group A1 only ²	Any	Any
S-2	Group A1 only ²	Any	Any
S-3	Group A1 only	Any	Any
S-4	Group A1 only	Any	Any

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S-5	Group A1 only	Any	Any
U-1	Any	Any	Any
U-2	N/A	N/A	N/A

¹See Section 1104.

²Any refrigerant may be used within a high-probability system when the room or space complies with Section 1104.3.

N/A—Not applicable.

³See Table 11-A for refrigerant groups, properties and allowable quantities.

CODE APPLICATION NOTICE**FILE NO. 5-311.9****DATE: April 30, 1993**

CODE SECTION: Section 311.9, 1995 California Plumbing Code
(Section 310(h), Part 5, Title 24, CCR)

Piping over operating and delivery rooms, nurseries, food preparation centers, food serving facilities, food storage areas, electrical rooms containing main electrical distribution panels or motor control centers, and other critical areas shall be kept to a minimum and shall not be exposed. Special precautions shall be taken to protect these areas from possible leakage from necessary overhead piping systems.

INTERPRETATION:

Drainage piping and rainwater piping over operating rooms, delivery rooms, cesarean rooms, recovery rooms, nurseries, intensive care units, food preparation centers, food serving facilities, food storage areas, shall be kept to a minimum and shall not be exposed. When it becomes necessary to route this piping above the ceiling of these rooms, special precautions shall be taken to protect these areas from possible leakage. Piping over electrical rooms is regulated by Section 384-4, 1995 California Electrical Code, and is not permitted even if the special precautions identified in this Code Application Notice are provided.

1. Acceptable "special precautions" for hubless cast iron pipe include; but are not limited to, the following:
 - (a) The use of couplings which have been tested and certified to conform to the performance requirements of Factory Mutual, Approval Standard 1680, Class I, by Factory Mutual Research or by a nationally recognized independent testing agency. The coupling shall be installed in accordance with the manufacturer's recommendations.
 - (b) "Heavy Duty" (ie, four-band type) couplings which have been listed by International Association of Plumbing and Mechanical Officials (IAPMO) for conformance to PS 35-89 or PS 35-91 or by Cast Iron Soil Pipe Institute (CISPI) for conformance to CISPI 310-90, but which have not

been tested to FM 1680, Class I, may be installed when restrained to prevent joint separation. Such restraint shall be by means of pipe clamps on each side of the joint with not less than two tie rods across the joint (installed similar to SMACNA Guidelines for Seismic Restraint, 1982 Edition, fig. 39 and/or CISPI 310-90, fig. 4).

- (c) Continuous drain troughs under overhead hubless piping. Such troughs shall be sloped to drain with a properly identified air gap termination over an approved receptor.
- 2. For copper drainage tubing (DWV), an acceptable "special precaution" is the use of brazed joints on all piping which is routed above the ceiling.
- 3. Other proposed methods of compliance will be reviewed on a case by case basis.

- NOTES:
- 1. See Article 384-4 of the 1995 California Electrical Code for restrictions on piping in rooms or spaces dedicated to switchboards, panelboards, and similar equipment.
 - 2. See Chapter 16 (Chapter 23) and State Chapter 16A (State Chapter 23) of the 1995 California Building Code for seismic restraint and anchorage requirements.
 - 3. Section 311.9 (Section 310(h)), 1995 California Plumbing Code applies only to drainage piping. It does not apply to pressure piping such as fire sprinkler piping and hydronic heating or cooling piping.

REASONS:

Section 311.9 (Subsection 310(h)), 1995 California Plumbing Code was editorially transferred from Section T17-216, Part 6, Title 24, CAC which was titled "Drainage Systems". Therefore, the application of Section 311.9 (Subsection 310(h)) regarding overhead piping over the listed rooms and areas should only be applied to drainage systems.

The code does not define what constitutes a "special precaution". Factory Mutual Research Corporation is a Nationally Recognized Testing Laboratory. Approval Standard Class Number 1680 is used to evaluate couplings used in drain, waste, vent, storm and sanitary systems for "their intended application of long term connection of hubless cast

iron soil pipe both above and below ground". The types of tests performed are: hydrostatic strength, blockage, bending moment, deflection angle, sealing sleeve, clamp strength, thrust test, and salt spray.

Clamps with tie rods are a means of preventing movement in the longitudinal direction. Preventing longitudinal separation of the joint maintains maximum surface contact of the sealing sleeve which affords a factor of safety deemed an acceptable "special precaution."

For copper tubing, brazed joints provide greater strength than soldered (sweated) joints due to better bonding with the base metal and due to strength of the filler material. The greater joint strength provided by brazing is an acceptable special precaution.

The use of drain troughs under overhead piping in critical areas has been used as a "special precaution" on a case-by-case basis for many years with satisfactory results.

The interpretation is reasonable and provides staff and industry with "special precautions" which meet the intent of the code.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

CODE APPLICATION NOTICE

FILE NO. 9-1001

DATE: August 23, 1996

9-1001 Fire-Protection Systems and Equipment

SUBJECT

APPROVAL DATE

Voltage Drop and Testing

October 25, 1996

Fire Alarm System Plans and Specifications

October 25, 1996

VOLTAGE DROP AND TESTING

CODE SECTION: Section 1001.3, Plans for Fire Alarm Systems, and Section 1001.4, Approval and Testing, 1995 California Fire Code, Part 9, Title 24, CCR

1001.3 Plans for Fire Alarm Systems. Complete plans and specifications for fire alarm systems shall be submitted for review and approval prior to system installation. Plans and specifications shall include, but not be limited to, a floor plan; location of all alarm-initiating and alarm-signaling devices; alarm control- and trouble-signaling equipment; annunciation; power connection; battery calculations; conductor type and sizes; voltage drop calculations; and manufacturer, model numbers and listing information for all equipment, devices and materials, *[for SFM] and state fire marshal listing number of all equipment, devices and materials requiring listing.*

1001.4 Approval and Testing. Fire alarm systems; fire hydrant systems; fire-extinguishing systems, including automatic sprinklers and wet and dry standpipes; halon systems and other special types of automatic fire-extinguishing systems; basement pipe inlets; and other fire-protection systems and appurtenances thereto shall meet the approval of the fire department as to installation and location and shall be subject to such periodic tests as required by the chief. See Appendix III-C.

Condition of approval of halon systems shall be satisfactory passage of a test conducted in accordance with nationally recognized standards prior to final acceptance of the system.

Fire alarm and detection systems shall be tested in accordance with U.F.C. Standard 10-4 and nationally recognized standards.

INTERPRETATION:

All fire alarm shop drawings submitted for approval shall include calculations intended to demonstrate that the voltage drop due to line loss of each notification appliance circuit(s) does not exceed the following level:

1. Ten percent (10%) of the nominal Fire Alarm Control Unit operating voltage as shown on the manufacturer's catalog cut sheets and/or listed installation instructions.

OR

2. The lowest level of notification appliance manufacturer's listed nameplate voltage range, as calculated from the nominal Fire Alarm Control Unit operating voltage.

In addition to the above calculations, as a portion of the field inspection of the fire alarm system installation, the contractor shall demonstrate to the inspector that any or all affected notification appliance circuits as installed meet the above criteria. The test method for such demonstration shall include the following steps:

1. Using a volt-ohm meter set to read the voltage being applied, measure the output voltage of the notification appliance circuit to be tested at the notification circuit power source.
2. Remove from its mounting the end of line notification appliance. All appliance wiring and the end of line devices are to remain intact throughout the test procedure.
3. Activate the fire alarm system to cause the notification appliance circuit to operate.
4. Using a volt-ohm meter, measure the actual voltage being applied to the end of line device during operation of the circuit.
5. Compare the measured voltage to the manufacturer's nameplate voltage. The measured voltage shall not be below the lowest voltage range as printed on the device nameplate. If the output voltage, as measured at the circuit's power source is greater than 24 volts, that difference shall be added to the lowest nameplate voltage of the device and the actual voltage measured at the device shall not be lower than that voltage. Any circuit(s) failing such field tests shall be reevaluated, repaired, and retested prior to acceptance of the system.

REASON:

Individual notification appliances are approved and listed by the California State Fire Marshal for a range of operating voltages. However, excessive voltage drops in the notification appliance circuits may cause both audible and visible devices to function outside the required performance parameters of the 1995 California Building Code, Part 2, Title 24 and the 1995 California Fire Code, Part 9, Title 24.

Low voltage to audible notification devices will cause the device to operate below the minimum decibel levels outlined in Chapter 35, 1995 California Building Code, Part 2, Title 24. Low voltage to visible notification devices will cause the device to operate below the minimum flash rate parameters.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

9-1001

FIRE ALARM SYSTEM PLANS AND SPECIFICATIONS

CODE SECTION: Section 1001.3, Plans for Fire Alarm Systems, 1995 California Fire Code, Part 9, Title 24

1001.3 Plans for Fire Alarm Systems. Complete plans and specifications for fire alarm systems shall be submitted for review and approval prior to system installation. Plans and specifications shall include, but not be limited to, a floor plan; location of all alarm-initiating and alarm-signaling devices; alarm control- and trouble-signaling equipment; annunciation; power connection; battery calculations; conductor type and sizes; voltage drop calculations; and manufacturer, model numbers and listing information for all equipment, devices and materials, *[for SFM] and state fire marshal listing number of all equipment, devices and materials requiring listing.*

INTERPRETATION:

All fire alarm system submittals shall include all of the following information submitted as a package. This shall apply whether the information is submitted with architectural drawings or as a deferred approval item after general plan review.

1. Scope of project
2. Floor plan showing fire alarm devices
3. Riser diagram
4. Point to point diagram
5. California State Fire Marshal listing sheet showing expiration date for all components
6. Manufacturer's specification sheet on all fire alarm equipment
7. O.S.H.P.D. Project number
8. Battery calculation or recalculation
9. Voltage drop calculation or recalculation
10. Accurate legend of symbols for all fire alarm devices being installed
11. Elevation detail of manual pull station installation
12. Elevation detail of visual alarm signaling devices
13. Location of fire/smoke barrier walls on floor plan
14. Identification of type of wiring used, including gauge and wire counts
15. Design number and detail of through penetration firestop system
16. Floor plan showing room identification/use
17. Details on support and anchorage of any fire alarm equipment weighing over 20 pounds
18. Sequence of operation/events when alarm system is activated

REASON:

The Section requires the submittal of complete plans and specification for review and approval prior to fire alarm system alterations or installation. This section also specifies, in part, the information necessary to evaluate and approve submitted plans.

This interpretation clarifies the minimum information required by this office to adequately review and evaluate fire alarm submittals. Designers are encouraged to include the minimum 15 item list in either the project specification or on the cover sheet of plan submittals.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

CODE APPLICATION NOTICE**FILE NO. 9-8705.4****DATE: March 2, 1993**

CODE SECTION: Section 8705.4, 1995 California Fire Code
(Section 87.104(d), California Fire Code)

Fire-resistive assemblies and construction shall be maintained in accordance with 1112.
(Maintenance of Fire-resistive Construction)

INTERPRETATION:

In occupied buildings, where temporary construction barriers are required to be installed during the construction or reconstruction of fire rated assemblies, temporary construction shall meet the same fire rating as would the permanent partition. Use of plastic or vinyl dust barriers in lieu of fire rated separations are prohibited. Temporary construction barriers are not required where adequate fire rated separation can be demonstrated to exist between occupied areas and construction areas.

Where construction barriers affect any exit component, pre-approval shall be obtained from the local fire jurisdiction and the OSHPD Fire Marshal prior to any demolition or reconstruction.

REASON:

While recognizing the need for construction barriers, the first objective is to ensure the safety of the patients. Dust membranes do not afford any level of fire protection or fire rated separation to areas remaining occupied during construction. Exit corridors, exit stairs, area separation walls, smoke barriers, etc. are all primary building features designed and installed to produce a "defend in place" and an "area of refuge" as required by the California Building Code for "I" Occupancies. Thus, it is essential that separation be maintained between construction areas and occupied portions of the building.

ORIGINAL SIGNED

10/25/96

Kurt A. Schaefer

Date

REVISION: August 20, 1996

POLICY INTENT NOTICE**FILE NO. PIN 17****DATE: July 1, 1996**

SUBJECT: 405.3.1 (Section 2103(d)), 1995 California Mechanical Code

The ventilation systems shall be designed and balanced to provide the general air balance relationship to adjacent areas shown in Table 4-A (Table No. 2110-A).

POLICY:

This is to clarify OSHPD policy relating to equipment replacement in facilities subject to Chapters 3 and 4 (Chapters 21 and 22), 1995 California Mechanical Code (CMC).

When existing HVAC fan systems are replaced, the fan or air handling unit shall comply with all requirements of the code in effect at the time of replacement. This includes space temperatures, humidification, and emergency power [Section 330 (Section 2102), 1995 CMC]; continuous fan operation and outdoor air intake locations [Section 405 (Section 2103), 1995 CMC]; filter minimum efficiencies and locations [Section 406 (Section 2104), 1995 CMC]; ventilation rates [Table 4-A (Table 2110-A), 1995 CMC], and equipment anchorage [Section 304.4.1 (Sections 504(d.1), and [Section 330.1.8 (Section 2102(h)), 1995 CMC].

Replacement of existing fans shall not require complete rebalance of all spaces connected to the existing, unaltered duct system, except as follows:

1. The new fan or air handling unit shall have sufficient capacity to provide the required temperature conditions, humidification, pressurization, outdoor air changes, and ventilation rates to all spaces served by the new unit.
2. At the time of fan replacement, the downstream duct main(s) and major branches (not including run-outs to rooms) shall be balanced to provide ventilation rates to connected spaces not less than that required by Table 4-A (Table 2110-A). Major branches shall be considered to be at each floor off a main duct riser for systems supplying more than one floor of a building. Major branches shall also be considered to be any branch that supplies more than 2000 CFM.
3. OSHPD strongly recommends that, at the time of fan replacement, the design professional take into consideration the likelihood that the replaced fan may be called on to serve additions or future functions that might require greater air supplies. It is recommended that the design professional review the possibility for system expansion with the hospital facilities staff or other responsible hospital administrative personnel prior to specifying the replacement fan.

REASON:

Section 104, Uniform Mechanical Code, contains provisions for continued use of existing mechanical systems lawfully in existence at the time of the adoption of this code ("grandfathering"). Questions have arisen about Code application at the time the equipment must be replaced due to wear, tear, etc.

Section 405.3.1 (Section 2103(d)), 1995 California Mechanical Code, requires compliance with Table 4-A (Table 2110-A), 1995 California Mechanical Code. Table 4-A (Table 2110-A), 1995 California Mechanical Code, is titled "Pressure Relationships and Ventilation of Certain Hospital Areas," and includes minimum ventilation rates as well as requirements for 100% exhaust of certain areas. Requiring complete HVAC upgrade of all spaces connected to the duct system served by the replacement fan would, in most cases, impose a cost burden on the health care facilities greater than the benefits received and could be disruptive to patient care. Furthermore, most health care facilities are continually remodeling spaces throughout their facilities, so, after a period of time, most of the spaces served by the replacement fan will be properly rebalanced in the course of normal remodeling and alterations if the replacement fan system is specified with adequate capacity to provide code complying conditions. Therefore, OSHPD policy is that replacement of existing fans shall not require complete HVAC upgrade of spaces connected to the existing, unaltered duct system at the time the fan system is replaced. Where problems are identified following a new installation the facility will be responsible for rebalancing those areas beyond the main branches identified in this document.

ORIGINAL SIGNED

10/31/96

Kurt A. Schaefer

Date